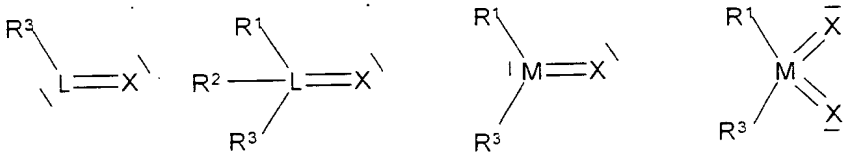
What is claimed is:

1. A mixture comprising
   - at least one matrix material A which comprises at least one structural unit of the form Q=X where the X radical has at least one nonbonding electron pair, the Q radical is P, As, Sb, Bi, S, Se or Te, and
   - at least one emission material B which is capable of emission and is a compound which emits light upon suitable excitation and contains at least one element of atomic number greater than 20.

2. The mixture as claimed in claim 1, characterized in that the matrix material A can form glasslike layers.

3. The mixture as claimed in claim 1 or 2, characterized in that the matrix material A has a glass transition temperature T_g, measured as the pure substance, of greater than 70 °C.

4. The mixture as claimed in one or more of claims 1 to 3, characterized in that the matrix material A comprises at least one compound of the formula (1) to (4)



Formula (1) Formula (2) Formula (3) Formula (4)

where the symbols and indices are defined as follows:

X is the same or different at each instance and is O, S, Se or N-R^3;

L is the same or different at each instance and is P, As, Sb or Bi;

M is the same or different at each instance and is S, Se or Te;

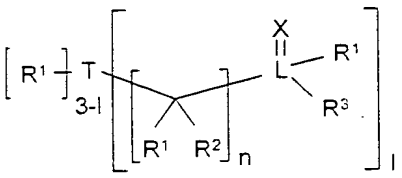
R^1, R^2 are the same or different at each instance and are each H, F, Cl, Br, I, CN, NO_2, $N(R^3)_2$, a straight-chain, branched or mono-, oligo- or polycyclic alkyl, alkoxy or thioalkoxy group having from 1 to 40 carbon atoms, in which one or more nonadjacent CH_2 groups may be replaced by $-R^4C=CR^4-$, $-C\equiv C-$, $Si(R^4)_2$, $Ge(R^5)_2$, $Sn(R^6)_2$, NR^7, C=O, C=S, C=Se, $C=NR^8$, -O-, -S-, $-NR^9-$ or $-CONR^{10}-$, and in which one or more hydrogen atoms may be replaced by F,

Cl, Br, I, CN, NO_2, or an aromatic or heteroaromatic ring system having from 1 to 40 carbon atoms, in which one or more hydrogen atoms may be replaced by F, Cl, Br, I, CN, NO_2, and which may be substituted by one or more nonaromatic R^3 radicals, where a plurality of substituents R^1 together may form a further mono- or polycyclic, aliphatic or aromatic ring system;

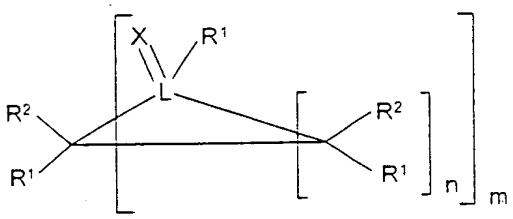
R^3 is the same or different at each instance and is a straight-chain or branched or mono-, oligo- or polycyclic alkyl, alkoxy or thioalkoxy group having from 1 to 40 carbon atoms, in which one or more nonadjacent CH_2 groups may be replaced by $-R^4C=CR^4-$, $-C\equiv C-$, $Si(R^4)_2$, $Ge(R^5)_2$, $Sn(R^6)_2$, NR^7, C=O, C=S, C=Se, $C=NR^8$, -O-, -S-, $-NR^9-$ or $-CONR^{10}-$, and in which one or more hydrogen atoms may be replaced by F, Cl, Br, I, CN, NO_2, or an aromatic or heteroaromatic ring system having from 1 to 40 carbon atoms, in which one or more hydrogen atoms may be replaced by F, Cl, Br, I, CN, NO_2, and which may be substituted by one or more nonaromatic R^1 radicals, where a plurality of substituents R^1 together may form a further mono- or polycyclic, aliphatic or aromatic ring system, and where R^3 with R^1 and/or R^2 may form a mono- or polycyclic, aliphatic or aromatic ring system;

R^4, R^5, R^6, R^7, R^8, R^9, R^{10} are the same or different at each instance and are each H or an aliphatic or aromatic hydrocarbon radical having from 1 to 20 carbon atoms.

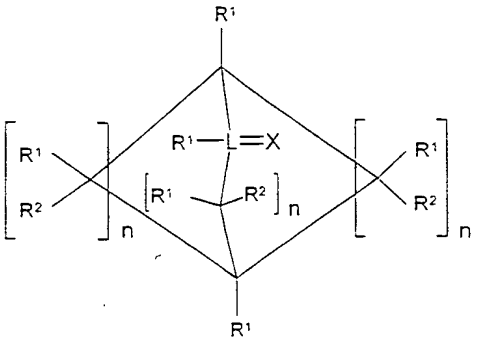
5. The mixture as claimed in one or more of claims 1 to 3, characterized in that the matrix material A used is at least one compound of the formula (5) to (37)



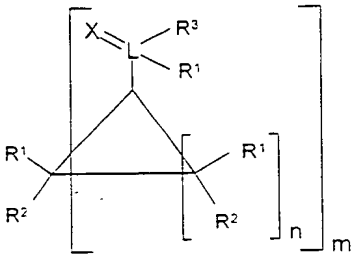
Formula (5)



Formula (6)



Formula (7)



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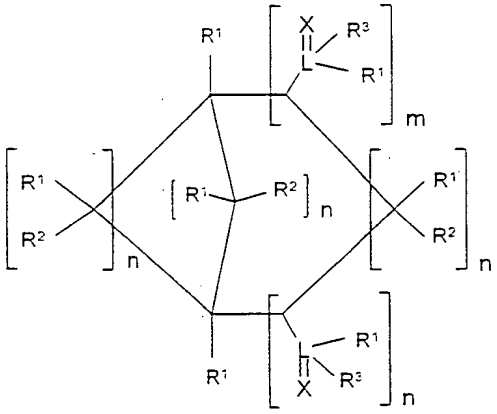
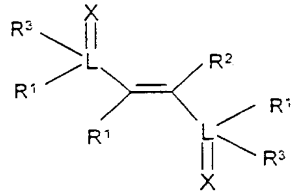
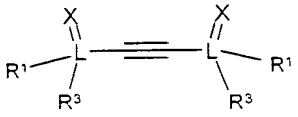


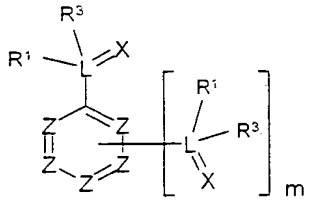
Formula (9)



Formula (10)



Formula (11)



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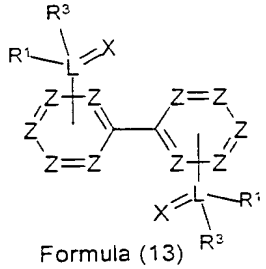

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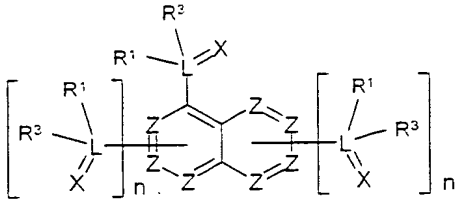

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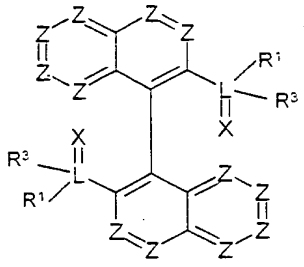

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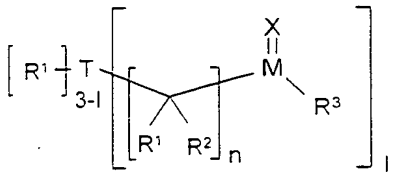

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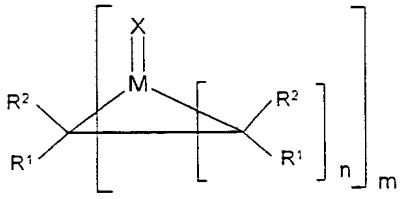

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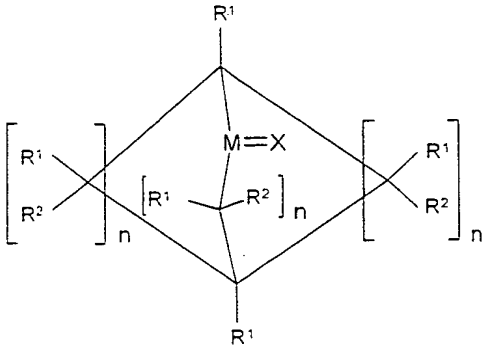

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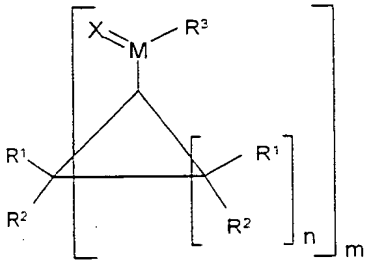

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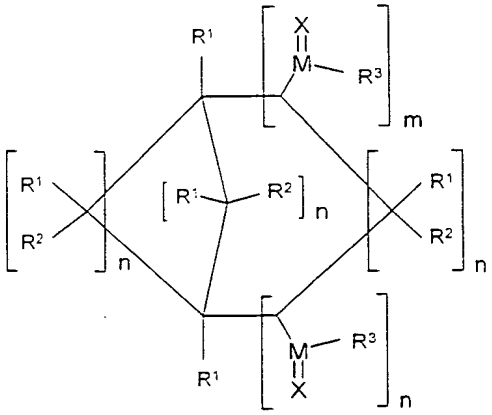

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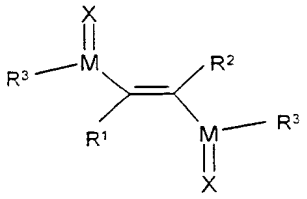

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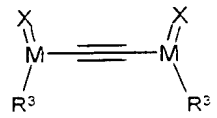

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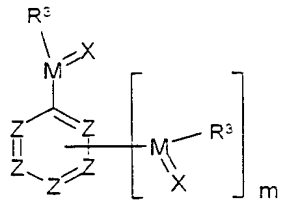

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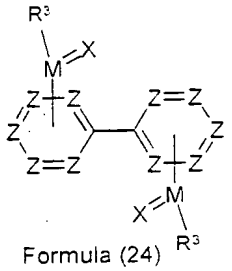

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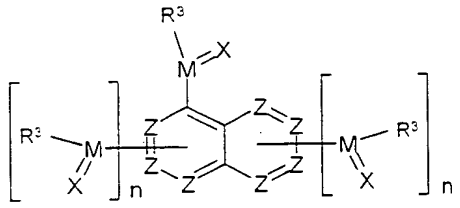

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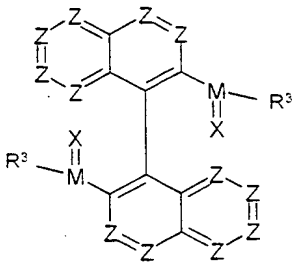

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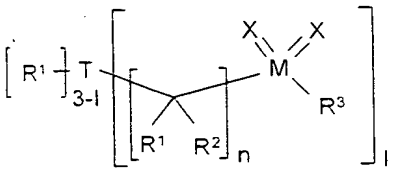

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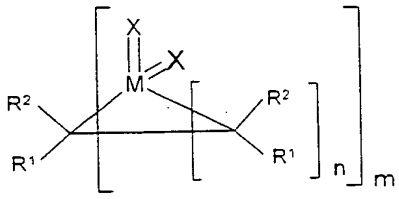

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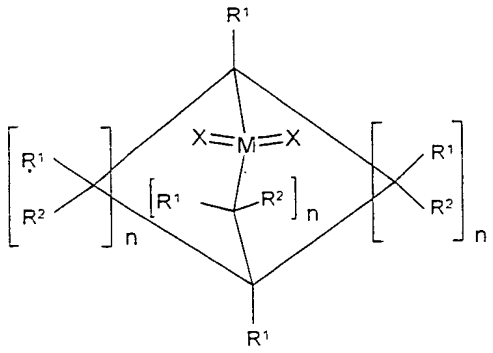

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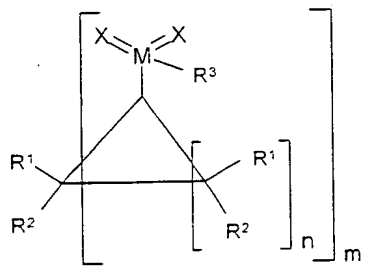
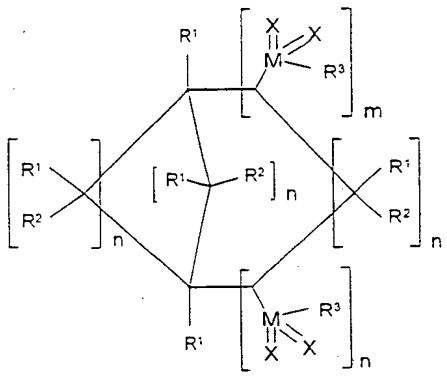
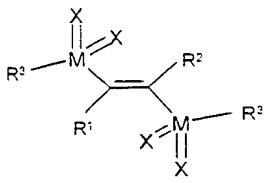


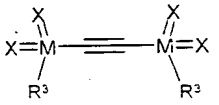
Formula (30)



Formula (31)



Formula (32)



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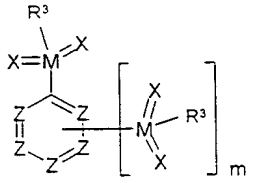
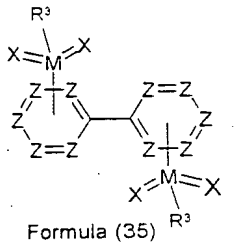
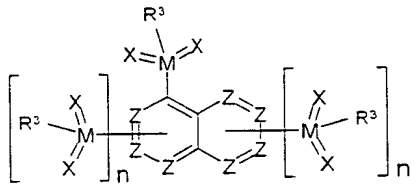


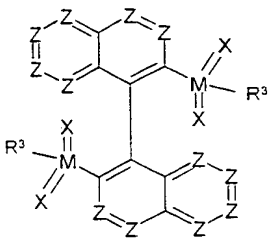
Formula (34)



Formula (35)



Formula (36)



Formula (37)

where the symbols and indices are defined as follows:

l is 1, 2 or 3;

m is 1, 2, 3, 4, 5 or 6;

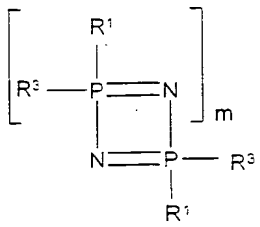
n is the same or different at each instance and is 0, 1, 2, 3, 4, 5 or 6;

T is the same or different at each instance and is B, Al, CR^1, N, P=O, As=O, Sb=O or Bi=O;

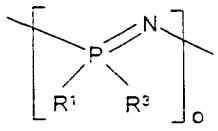
Z is the same or different at each instance and is CR^1 or N;

and where the symbols L, M, X, R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9 and R^{10} are each as defined in claims 1 to 4.

6. The mixture as claimed in one or more of claims 1 to 3, comprising, as the matrix material A, at least one compound of the formula (38) or (39)



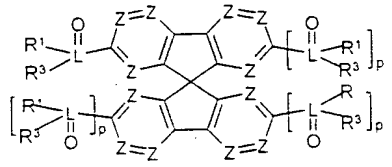
Formula (38)



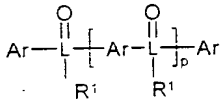
Formula (39)

where o is from 5 to 5 000 000 and where the symbols m, R^1, R^3, R^4, R^5, R^6, R^7, R^8, R^9 and R^{10} are each as defined in claims 4 and 5.

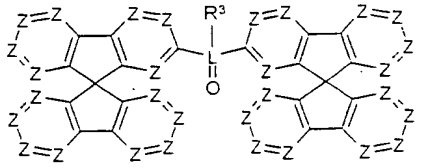
7. The mixture as claimed in one or more of claims 1 to 3, comprising, as the matrix material A, at least one compound of the formula (40) to (48)



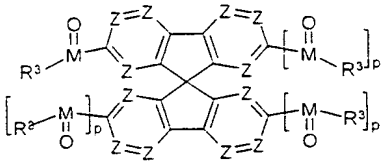
Formula (40)



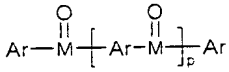
Formula (41)



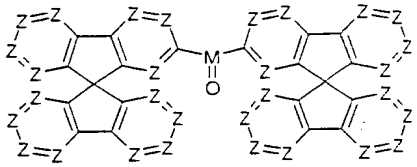
Formula (42)



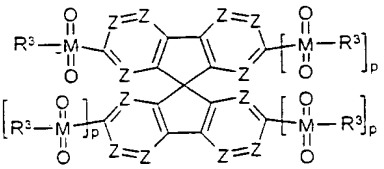
Formula (43)



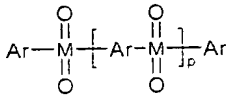
Formula (44)



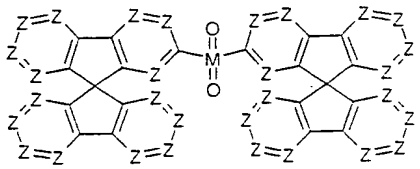
Formula (45)



Formula (46)



Formula (47)



Formula (48)

where the symbols L, M, R^1, R^3 and Z are each as defined in claims 1, 4 and 5, and the further symbols and indices are:

Ar is the same or different at each instance and is a mono- or bivalent, aromatic or heteroaromatic ring system having from 2 to 40 carbon atoms, preferably having from 4 to 30 carbon atoms, in which one or more hydrogen atoms may be replaced by F, Cl, Br, I, and which may be substituted by one or more nonaromatic R^1 radicals, where a plurality of substituents R^1, either on the same ring or on different rings, together may in turn form a further mono- or polycyclic, aliphatic or aromatic ring system;

p is the same or different at each instance and is 0 or 1.

8. The mixture as claimed in one or more of claims 1 to 7, comprising, as the matrix material A, at least one compound of the formula (1) to (48), characterized in that:

L is P at each instance;

M is S at each instance;

X is O at each instance;

T is the same or different at each instance and is B, CR^1 or P=O;

Z is the same or different at each instance and is CR^1 or N;

R^1, R^2, R^3 are the same or different at each instance and are each CH_3, CF_3, -HC=CH- or an aromatic or heteroaromatic ring system having from 1 to 40 carbon atoms, in which one or more hydrogen atoms may be replaced by F, Cl, Br, I, and which may be substituted by one or more nonaromatic R^1 radicals, where a plurality of substituents R^1 together may form a further mono- or polycyclic, aliphatic or aromatic ring system, and where R^3 with R^1 and/or R^2 may form a mono- or polycyclic, aliphatic or aromatic ring system;

m is 1,2 or 3;

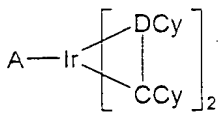
n is the same or different at each instance and is 0, 1, 2 or 3;

and where the symbols and indices l, o, R^4, R^5, R^6, R^7, R^8, R^9 and R^{10} are each as defined in claims 4, 5 and 6.

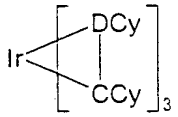
9. The mixture as claimed in one or more of claims 1 to 8, comprising, as the emitter B, at least one compound, characterized in that it emits light upon suitable excitation and contains at least one atom of atomic number greater than 38 and less than 84.

10. The mixture as claimed in one or more of claims 1 to 9, comprising, as the emitter B, at least one compound, characterized in that the element of atomic number greater than 56 and less than 80 is molybdenum, tungsten, rhenium, ruthenium, osmium, rhodium, iridium, palladium, platinum, silver, gold or europium.

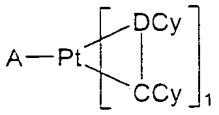
11. The mixture as claimed in one or more of claims 1 to 10, comprising, as the emitter B, at least one compound of the formula (49) to (52)



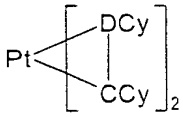
Formula (49)



Formula (50)



Formula (51)



Formula (52)

where the symbols used are:

DCy is the same or different at each instance and is a cyclic group which contains at least one donor atom via which the cyclic group is bonded to the metal and which may in turn bear one or more substituents R^{11}; the DCy and CCy groups are bonded to one another via a covalent bond;

CCy is the same or different at each instance and is a cyclic group which contains a carbon atom via which the cyclic group is bonded to the metal and which may in turn bear one or more substituents R^{11};

R^{11} is the same or different at each instance and is H, F, Cl, Br, I, NO_2, CN, a straight-chain, branched or cyclic alkyl or alkoxy group having from 1 to 40 carbon atoms, in which one or more nonadjacent CH_2 groups may be replaced by C=O, C=S, C=Se, C=NR^4, -O-, -S-, -NR^5- or -$CONR^6$-, and in which one or more hydrogen atoms may be replaced by F, or an aromatic or heteroaromatic ring system which has from 4 to 14 carbon atoms and may be substituted by one or more nonaromatic R^{11} radicals, in which a plurality of substituents R^{11}, either on the same ring or on the two different rings, together may in turn form a further mono- or polycyclic ring system;

A is the same or different at each instance and is a bidentate chelating ligand;

R^4, R^5, R^6 is the same or different at each instance and is H or an aliphatic or aromatic hydrocarbon radical having from 1 to 20 carbon atoms.

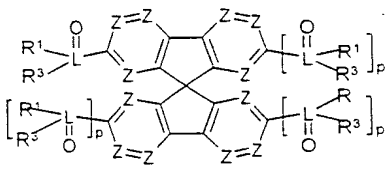
12. The mixture as claimed in one or more of claims 1 to 10, comprising one or more polymers or dendrimers as the matrix material, characterized in that the matrix material comprises one or more structural units of the formula (1) to (48).

13. The mixture as claimed in claim 12, characterized in that the polymer is conjugated, part-conjugated or nonconjugated.

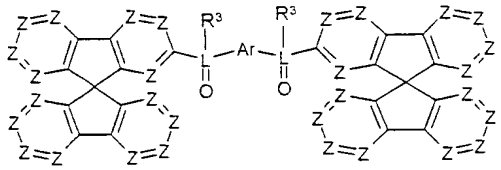
14. The mixture as claimed in claim 12 and/or 13, characterized in that the polymer is selected from the group of the polyfluorenes, polyspirobifluorenes, polyparaphenylenes, polycarbazoles, polyvinylcarbazoles, polythiophenes, or else from copolymers which have a plurality of the units mentioned here.

15. A mixture comprising at least one matrix material A as claimed in one or more of claims 1 to 7 and one or more polymers and/or dendrimers as claimed in one or more of claims 12 to 14.

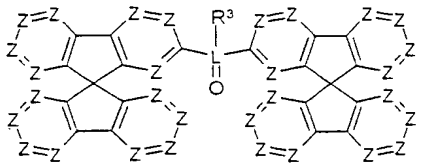
16. A compound of the formula (40), (41a), (42), (43), (44a), (45), (46), (47a) and (48)



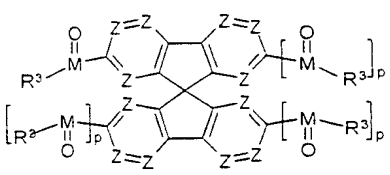
Formula (40)



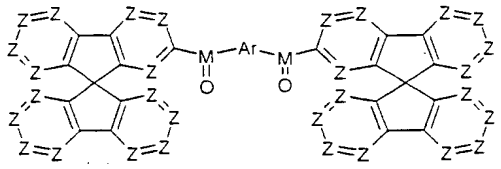
Formula (41a)



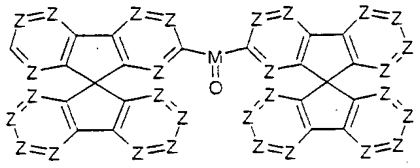
Formula (42)



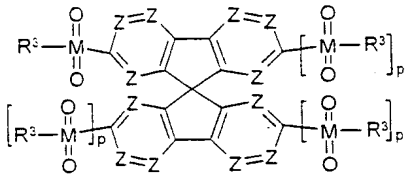
Formula (43)



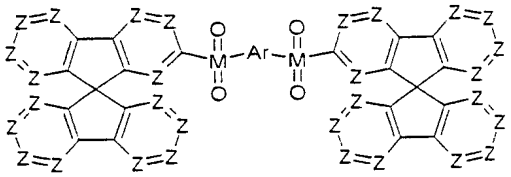
Formula (44a)



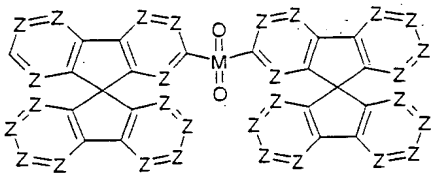
Formula (45)



Formula (46)



Formula (47a)



Formula (48)

where the symbols L, M, R^1, R^3 and Z are each as defined in claims 1, 4 and 5, with the proviso that, in formula (43), not all p may be = 1 when Z = CH and M = S and when R^3 is a substituted or unsubstituted phenyl group.

17. An electronic component comprising at least one mixture as claimed in one or more of claims 1 to 15 and/or a compound as claimed in claim 16.

18. The electronic component as claimed in claim 17, characterized in that it is an organic light-emitting diode (OLED), an organic integrated circuit (O-IC), an organic field-effect transistor (OFET), an organic thin-film transistor (OTFT), an organic solar cell (O-SC), an organic optical detector, an organic photoreceptor in electrophotography or an organic laser diode (O-lasers).

19. The electronic component as claimed in claim 17 and/or 18, characterized in that a mixture as claimed in one or more of claims 1 to 15 directly adjoins an electron transport layer without use of a separate hole blocking layer.

20. The electronic component as claimed in claim 17 and/or 18, characterized in that a mixture as claimed in one or more of claims 1 to 15 directly adjoins an electron injection layer or the cathode without use of a separate hole blocking layer and of a separate electron transport layer.

21. The electronic component as claimed in claim 17 and/or 18, characterized in that the electronic component is an organic light-emitting diode (OLED) which comprises at least one hole blocking layer and/or at least one electron transport layer and/or at least one electron injection layer and/or further layers.